

# Maryland Health Care Commission

## Primary Percutaneous Coronary Intervention (PCI) Programs in Hospitals without On-Site Cardiac Surgery

Source: Maryland STEMI (Primary PCI) Data Registry – 07/16/2009

Under the primary PCI waiver program, hospitals without on-site cardiac surgery may provide PCI services to patients meeting certain eligibility criteria. All patients undergoing PCI during this reporting period were appropriate for primary PCI in settings without on-site cardiac surgery. The hospitals are required to collect data on all patients with ST-segment elevation myocardial infarction (STEMI). Door-to-balloon (DTB) time is typically recorded as the difference in minutes between the patient's arrival in the hospital's emergency room and the time of first device use. In the registry database, exceptions to this calculation method most commonly occur when the patient arrives with a *history* of chest discomfort but a normal or non-diagnostic initial (first) electrocardiogram (ECG). *If and only if* the first ECG is normal/non-diagnostic *and* is entered into the database for review and confirmation along with a second ECG showing STEMI, then the date and time of the second (diagnostic) ECG are used as the "door" or "clock start" time to calculate DTB time. This same algorithm is applied to patients already hospitalized: the "door" ECG is the first ECG recorded showing STEMI.

**Table 1. PCI volume<sup>1</sup>, median DTB time, and number and percentage of patients by DTB ≤ 120 minutes or > 120 minutes at Maryland hospitals performing primary PCI under waivers from the Maryland Health Care Commission (MHCC), January to March 2009. MHCC waiver requirements specify that 80% of appropriate patients should receive primary PCI as soon as possible and not to exceed a door-to-balloon time of 120 minutes.**

	Total PCI Volume	Median DTB (minutes)	≤ 120 Minutes (N)	≤ 120 Minutes (%)	> 120 Minutes (N)	> 120 Minutes (%)
<b>1st Quarter 2009 (January 1 - March 31)</b>						
Anne Arundel Medical Center	28	107	19	68	9	32
Baltimore Washington Medical Center	26	62	26	100	0	0
Carroll Hospital Center	18	65	16	89	2	11
Franklin Square Hospital Center	22	74	18	82	4	18
Frederick Memorial Hospital	30	58	28	93	2	7
Holy Cross Hospital	6	70	5	83	1	17
Howard County General Hospital	11	81	10	91	1	9
Johns Hopkins Bayview Medical Center	17	88	11	65	6	35
Saint Agnes Hospital	20	94	17	85	3	15
Shady Grove Adventist Hospital	18	81	18	100	0	0
Southern Maryland Hospital Center	33	84	26	79	7	21
Upper Chesapeake Medical Center	28	88	23	82	5	18
Washington County Hospital	21	73	19	90	2	10

<sup>1</sup> PCI volume – number of patients who had a device (balloon, stent, thrombectomy) used that is designed to open the infarction-related artery. The first device used is almost always a balloon-type device, but occasionally is a thrombectomy device. The data include all patients and total door-to-balloon time for transferred patients.

Three hospitals performed PCI for patients who were transferred from another facility. Shady Grove Adventist Hospital (SGAH) received within-county transfers from the Shady Grove Adventist Emergency Center, a freestanding medical facility that is located eight miles from the hospital. The emergency center is a part of SGAH administratively and operationally; a memorandum of understanding between Adventist HealthCare, the Montgomery County Fire Rescue Service, and the Maryland Institute for Emergency

Medical Services Systems allows inter-facility transports between the center and SGAH's Emergency Department. Upper Chesapeake Medical Center (UMC) received within-county transfers from Harford Memorial Hospital, which is located about 19 miles from UMC; both hospitals are members of Upper Chesapeake Health. Southern Maryland Hospital Center (SMHC) received within-county transfers from two hospitals, Fort Washington Medical Center (about 16 miles from SMHC) and Malcolm Grow Medical Center at Andrews Air Force Base (about 6 miles from SMHC).

**Table 2. PCI volume<sup>1</sup>, median DTB time<sup>2</sup>, and number and percentage of transferred patients by DTB ≤ 120 minutes or > 120 minutes at Maryland hospitals with primary PCI waivers, January to March 2009.**

	Transfer PCI Volume	Median DTB (minutes)	≤ 120 Minutes (N)	≤ 120 Minutes (%)	> 120 Minutes (N)	> 120 Minutes (%)
<b>1st Quarter 2009 (January 1 - March 31)</b>						
Shady Grove Adventist Hospital	2	85	2	100	0	0
Southern Maryland Hospital Center	2	205	0	0	2	100
Upper Chesapeake Medical Center	9	120	5	56	4	44

<sup>1</sup> PCI volume – number of patients who had a device (balloon, stent, thrombectomy) used that is designed to open the infarction-related artery. The first device used is almost always a balloon-type device, but occasionally is a thrombectomy device.

<sup>2</sup> DTB time – time of arrival (“clock start” time) at the first facility to time of PCI (device use) in the receiving facility

**Table 3. PCI volume<sup>1</sup>, median DTB time, and number and percentage of patients by DTB ≤ 90 minutes or > 90 minutes at Maryland hospitals performing primary PCI under waivers from the Maryland Health Care Commission, January to March 2009.**

	Total PCI Volume	Median DTB (minutes)	≤ 90 Minutes (N)	≤ 90 Minutes (%)	> 90 Minutes (N)	> 90 Minutes (%)
<b>1st Quarter 2009 (January 1 - March 31)</b>						
Anne Arundel Medical Center	28	107	9	32	19	68
Baltimore Washington Medical Center	26	62	23	88	3	12
Carroll Hospital Center	18	65	14	78	4	22
Franklin Square Hospital Center	22	74	13	59	9	41
Frederick Memorial Hospital	30	58	26	87	4	13
Holy Cross Hospital	6	70	5	83	1	17
Howard County General Hospital	11	81	9	82	2	18
Johns Hopkins Bayview Medical Center	17	88	9	53	8	47
Saint Agnes Hospital	20	94	9	45	11	55
Shady Grove Adventist Hospital	18	81	16	89	2	11
Southern Maryland Hospital Center	33	84	19	58	14	42
Upper Chesapeake Medical Center	28	88	15	54	13	46
Washington County Hospital	21	73	18	86	3	14

<sup>1</sup> PCI volume – number of patients who had a device (balloon, stent, thrombectomy) used that is designed to open the infarction-related artery. The first device used is almost always a balloon-type device, but occasionally is a thrombectomy device. The data include all patients and total door-to-balloon time for transferred patients.